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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/526,878	03/16/2000	Takayuki Nabeshima	018656-035	1442

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EXAMINER
LETT, THOMAS J

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 March 2000*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
        1.☒ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.
    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1.   The abstract of the disclosure is objected to because the abstract should be

limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1, 2, 5, 6, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated

by Katayama et al (US Patent 5,905,579).

Regarding claim 1, Katayama et al disclose an image reader that scans the

image of an original (col 8, lines 51-52 and Fig. 9) (which reads on receiving image

data obtained by reading an original document by an image sensor); an edge detecting

circuit that detects edge pixels (col 9, lines 4-5), (which reads on extracting an edge

portion using the received image data); embodiment includes an image input circuit 1

for entering, in line units, luminance-image data of an image(col 3, lines 22-24), which

reads on brightness; the second edge detecting circuit 251 calculates the three-

dimensional spatial distance between the pixel of interest X and the peripheral pixels

A.about.D in accordance with Equation (2) (col 10, lines 31-34) which reads on

saturation and hue information with respect to the edge portion. In accordance with this method of detection, it is possible to detect color edges having different hues and saturations even if the brightness is the same. This is very effective in terms of detecting color characters (col 10, lines 40-43, and see Fig. 14) and the color-character discriminating circuit 253 judges that a color-character pixel is a pixel in a block in which a pixel corresponding to an edge is judged to exist by the second edge detecting circuit in an area judged to be a character area by the area separating unit 102, this pixel also being judged to be any of the K, R, G, B, C, M, Y pixels by the color detecting circuit 252. The circuit 253 outputs the discrimination data S="1" in response to discrimination of this color-character pixel (col 11, lines 54-62), which reads on determining whether or not the edge portion is a black edge based on the brightness information, saturation information and hue information.

Regarding claim 2, Katayama et al disclose an image reader 101 scans the image of an original by a CCD line sensor, for example, and outputs eight-bit image data in each of the colors R, G, B (col 8, lines 51-53), which reads on the image data has R, G, and B data.

Regarding claim 5, Katayama et al disclose a smoothing circuit smoothes block distortion of the image data received from the reverse orthogonal transformation circuit. A combining circuit combines the color-character data from the arithmetic decoding circuit and the image data from the smoothing circuit to reproduce the image data. It should be noted that the combining circuit combines the result of multiplying the R, G, B values of color-character data by respective ones of prescribed coefficients, whereby

priority is given to color-character data so that clear color characters is reproduced. In

this embodiment, the reason why smoothing is applied to the image data outputted by

the reverse orthogonal transformation circuit but not to the color-character data

outputted by the arithmetic decoding circuit is that this would cause a decline in the

resolution of the character (col 14, lines 1-14), which reads on an image processing

portion which applies a predetermined process to the black edge determined by the

third determining portion.

Claims 6 and 8, apparatus claims, are rejected for the same reason as claim 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Katayama et al (US Patent 5,905,579) in view of Suzuki (US Patent 5,296,939).

Katayama et al disclose an image reader that scans the image of an original (col 8, lines

51-52 and Fig. 9) (which reads on receiving image data obtained by reading an original

document by an image sensor); an edge detecting circuit that detects edge pixels (col 9,

lines 4-5), (which reads on extracting an edge portion using the received image data);

embodiment includes an image input circuit 1 for entering, in line units, luminance-

image data of an image(col 3, lines 22-24), which reads on brightness; the second edge

detecting circuit 251 calculates the three-dimensional spatial distance between the pixel

of interest X and the peripheral pixels A.about.D in accordance with Equation (2) (col

10, lines 31-34) which reads on saturation and hue information with respect to the edge

portion. In accordance with this method of detection, it is possible to detect color edges

having different hues and saturations even if the brightness is the same. This is very

effective in terms of detecting color characters (col 10, lines 40-43, and see Fig. 14) and

the color-character discriminating circuit 253 judges that a color-character pixel is a

pixel in a block in which a pixel corresponding to an edge is judged to exist by the

second edge detecting circuit in an area judged to be a character area by the area

separating unit 102, this pixel also being judged to be any of the K, R, G, B, C, M, Y

pixels by the color detecting circuit 252. The circuit 253 outputs the discrimination data

S="1" in response to discrimination of this color-character pixel (col 11, lines 54-62),

which reads on determining whether or not the edge portion is a black edge based on

the brightness information, saturation information and hue information. Katayama et al

does not disclose expressly a second determining portion which determines whether or

not the edge portion is a pseudo-black edge based on the hue information or a third

determining portion which determines that the edge portion is a black edge. Suzuki

discloses a determining means which detects the hue and determines whether a

maximum density signal of the input image data exceeds a preset threshold value ... to

discriminate between the color character and the black character. (col 4, lines 40-51).

Katayama et al and Suzuki et al are analogous art because they are from the similar

problem solving area of discriminating edge color. At the time of the invention, it would

have been obvious to a person of ordinary skill in the art to add the feature of Suzuki to

Katayama et al in order to obtain an edge color determining portion to discriminate between black and a color. The motivation for doing so would be to better identify a color edge or a true black edge.

Claim 7, an apparatus claim, is rejected for the same reason as claim 3.

4.   Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama et al (579) and Suzuki et al (939) as applied to claim 3 above, and further in view of Katayama et al (US Patent 5,588,069). Katayama et al (579) in view of Suzuki (939) fails to disclose a determining portion comparing a threshold value obtained based on brightness with hue information, and determining whether or not the edge portion is a pseudo-black edge based on the result of the comparison. Katayama et al (069) disclose a color character judgement unit combined with an edge detection unit that compares thresholds with luminance values. The pixel data is taken from an RGB space(three-dimensional space) and are subject to arithmetic operations(col 4, lines 20-67 and col 5, lines1-46), which reads on a determining portion compares a threshold value obtained based on the brightness information with the hue information, and determines whether or not the edge portion is a pseudo-black edge based on the result of the comparison. Katayama et al (579), Suzuki et al (939), and Katayama et al (069) are analogous art because they are from the similar problem solving area of discriminating edge color. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the feature of Katayama et al (069) to Katayama et al (579) and Suzuki et al (939), in order to obtain an additional edge color

determining portion to further discriminate between black and a color. The motivation

for doing so would be to lessen the possibility of mistaking a color for black.

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thomas J. Lett whose telephone number is 703-305-

8733. The examiner can normally be reached on 8-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kimberly Williams can be reached at 703-305-4863. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703)305-

3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only).

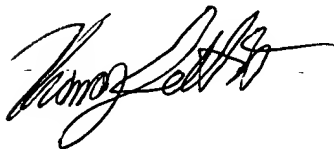**Hand-delivered** responses should be brought to:
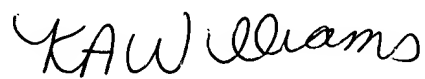Crystal Park II
2121 Crystal Drive
Arlington, VA   Sixth Floor (Receptionist)

TJL

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER